

IN THE CLAIMS

1.-4. (Canceled)

5. (Currently Amended) A bimodal power data link transceiver device, the device comprising:

a transceiver integrated circuit (IC), the transceiver IC comprising:

a transmitter, the transmitter having;

a phase locked loop (PLL) frequency synthesizer comprising a partial first voltage controlled oscillator (VCO);

a first power amplifier, the first power amplifier coupled to the PLL frequency synthesizer; and

a receiver;

a second power amplifier coupled to the first power amplifier;

a transmit/receive switch coupled to the second power amplifier and the receiver;

a controller coupled to the transceiver IC;

a direct digital frequency synthesizer having an output coupled to an input of the transceiver IC;

a second voltage controlled oscillator (VCO) coupled to the ~~transmitter~~ partial first VCO; and

a loop filter coupled to the second VCO and the transceiver IC.

6. (Currently Amended) A bimodal power data link transceiver device as in claim 5, wherein the PLL frequency synthesizer comprises:

~~a partial voltage controlled oscillator;~~

a phase detector coupled to the loop filter; and

a crystal oscillator coupled to the phase detector.

7. (Original) A bimodal power data link transceiver device as in claim 5, wherein the receiver comprises:

a low noise amplifier;

a quadrature mixer pair, the quadrature mixer pair coupled to the low noise amplifier and the PLL frequency synthesizer, the quadrature mixer pair having:

a first quadrature signal;

a second quadrature signal;

a demodulator;

a first signal channel, the first signal channel coupling the first quadrature signal to the demodulator; and

a second signal channel, the second signal channel coupling the second quadrature signal to the demodulator.

8. (Original) A bimodal power data link transceiver device as in claim 5, wherein the transceiver IC comprises at least one field programmable gate array (FPGA).

9. (Original) A bimodal power data link transceiver device as in claim 5 wherein the transmit/receive switch comprises a plurality of diodes.

10. (Currently Amended) A method for transceiving data in a device adapted to transceiving data in the radio frequency spectrum, the method comprising ~~the steps of:~~

providing a transceiver integrated circuit (IC), the transceiver IC having:

a partial first voltage controlled oscillator (VCO);

an oscillator input port coupled to the partial first VCO;

a frequency reference port;

a radio frequency input port;

a radio frequency output port;

a phase detector output port;

using a second VCO, generating a ~~voltage controlled oscillator (VCO)~~ signal  
for input to the oscillator port;

coupling a direct digital synthesizer (DDS) to the frequency reference port;

coupling the radio frequency output port to a power amplifier; and

coupling the radio frequency input port to a transmit/receive switch.

11. (Currently Amended) A method as in claim 10 wherein ~~the step of~~ providing a transceiver IC further comprises ~~the steps of~~:

providing a field programmable gate array (FPGA); and

programming the FPGA to operate as a transceiver.

12. (Currently Amended) A method as in claim 10 wherein the step of generating a voltage controlled oscillator signal for input to the oscillator port further comprises ~~the steps of~~:

coupling the phase detector output port to at least one loop filter; and

coupling the at least one loop filter to ~~at least one~~ the second VCO.

13. (Currently Amended) A method as in claim 10 wherein ~~the step of~~ coupling a DDS to the frequency reference port further comprises ~~the step of~~ coupling a first microprocessor controller to the DDS.

14. (Currently Amended) A method as in claim 13 wherein ~~the step of~~ coupling the first microprocessor controller to the DDS further comprises ~~the step of~~ setting a center transmit frequency.

15. (Currently Amended) A method as in claim 13 wherein ~~the step of~~ coupling the first microprocessor controller to the DDS further comprises ~~the step of~~ modulating a transmit frequency.

16. (Currently Amended) A method as in claim 10 ~~wherein transceiving data in the device adapted to transceiving data in the radio frequency spectrum further comprising~~comprises the steps of:

operating the device in a quiescent baseline receiver mode, wherein the quiescent baseline receiver mode comprises a first power mode;

operating the device in a burst transmit mode when not in the quiescent baseline receiver mode, wherein the burst transmit mode comprises a second power mode, wherein the second power mode is greater than the first power mode;

operating the device with a transmit/receive time ratio less than 1.5; and

transceiving a RF carrier frequency less than 200 MHz.

17. (Currently Amended) A method as in claim 10 ~~wherein transceiving data in the device adapted to transceiving data in the radio frequency spectrum further comprising~~comprises the step of operating the device with a global positioning indicator.

18. (Original) A method as in claim 10 ~~wherein transceiving data in the device adapted to transceiving data further comprising~~comprises the step of transceiving data in weapons munitions, wherein the step of transceiving data in weapons munitions further comprises the step of transmitting frequency shift key (FSK) modulated signals.

19. (Original) A method as in claim 10 ~~wherein transceiving data in the device adapted to transceiving data further comprising~~comprises the step of transceiving data in a landmine.

20. (Original) A bimodal power data link transceiver device, the device comprising:  
a receiver section;

a transmitter section;

a phased locked loop (PLL) frequency generator section, wherein the PLL frequency generator section comprises:

a first voltage controlled oscillator (VCO);

an integrated circuit (IC), wherein the integrated circuit comprises:

a first buffer, wherein the buffer is coupled to the first VCO,  
the first buffer comprises:

a partial second VCO,

a digital direct synthesizer (DDS), wherein the DDS is coupled to the  
IC; and

a controller section, the controller section coupled to the PLL frequency  
generator section and the receiver section.

21. (Original) A bimodal power data link transceiver device as in claim 20, wherein the  
transmitter section comprises:

the IC, the IC further comprising:

a first amplifier, wherein the first amplifier is coupled to the PLL  
frequency generator section; and

a second amplifier, the second amplifier coupled to the first amplifier.

22. (Original) A bimodal power data link transceiver device as in claim 20, wherein the receiver section comprises:

a low noise amplifier;

a quadrature mixer pair coupled to the low noise amplifier; and

a demodulator coupled to the quadrature mixer pair.

23. (Original) A bimodal power data link transceiver device as in claim 20, wherein the device is adapted to fit in a weapon.

24. (Original) A bimodal power data link transceiver device as in claim 23 wherein the weapon comprises a landmine.

25. (Original) A bimodal power data link transceiver device as in claim 23 wherein the weapon comprises a sea mine.